ABSTRACT

INTRODUCTION: Salivary gland tumours constitutes 3 – 6% of head and neck neoplasms. 80% of tumours occur in parotid gland and 80% are benign. Superficial parotidectomy is the commonest performed procedure for parotid tumours, which can be done either in antegrade or retrograde facial nerve dissection fashion.

METHODS: 48 cases of superficial parotidectomy done in Western Regional Hospital, Pokhara were studied. The mean time of surgery and complications were compared among the two groups.

RESULTS: 23 patients were in the antegrade while 25 patients in the retrograde group. Operating time in retrograde group was less with statistically significant difference (p value <0.05). Complications among the two groups were comparable.

CONCLUSION: Superficial parotidectomy using retrograde facial nerve dissection is a better technique than the conventional antegrade facial nerve dissection.

KEY WORDS: Parotid, facial nerve, retrograde

INTRODUCTION:

The parotid gland is the most common site for salivary tumours. Most tumours arise in the superficial lobe and present as slow growing, painless swelling. 80-90% are benign, the most common being pleomorphic adenoma.

Most commonly performed surgery is superficial parotidectomy. There are two basic techniques for the identification and dissection of the facial nerve. One is the forward or antegrade dissection, where the approach to the main trunk is taken as an early step, tracing it to the bifurcation and peripheral branches. The other technique is the retrograde dissection, where the peripheral branches are identified first, then proximally to the bifurcation or main trunk. This retrograde dissection of the facial nerve is more popular in China.

METHODS:

This study includes patients who underwent superficial parotidectomy in Western Regional Hospital in between February 2004 and March 2011. 25 patients had retrograde superficial parotidectomy while 23 patients underwent antegrade superficial parotidectomy.

The conventional antegrade nerve dissection identifies the nerve trunk close to the tip of the tragal cartilage and the attachment of the sternomastoid muscle. The retrograde method first identifies either of the branches of the facial nerve mostly buccal branch and these branches are dissected in a retrograde fashion as far as the main trunk of the facial nerve.

Duration of surgery and complications in both the groups were noted and compared.

RESULTS:

Patient’s age ranged from 7 years to 73 years, 16 patients were female and 9 patients were male in the group who underwent retrograde dissection. The patients age in antegrade dissection ranged from 18 years to 58 years, 13 were female and 10 male.
Table 1. Mean duration of surgery

<table>
<thead>
<tr>
<th></th>
<th>Antegrade dissection</th>
<th>Retrograde dissection</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>110 minutes</td>
<td>80 minutes</td>
<td>&lt;0.05</td>
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</table>

Table 2. Diagnosis according to histopathological report

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Procedure</th>
<th>Anterograde</th>
<th>Retrograde</th>
<th>Anterograde (Low Grade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pleomorphic adenoma</td>
<td>23</td>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>2. Mucoepidermoid carcinoma</td>
<td>0</td>
<td></td>
<td>1</td>
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</tbody>
</table>

Table 3. Complications after surgery

<table>
<thead>
<tr>
<th>Complications</th>
<th>Antegrade (n=23)</th>
<th>Retrograde (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary facial nerve weakness</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>Permanent facial nerve damage</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Wound infection</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Salivary fistula (temporary)</td>
<td>0%</td>
<td>4%</td>
</tr>
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</table>

DISCUSSION:

Salivary gland neoplasms comprises 3-6% of head and neck neoplasms, 80% occurring in parotid gland. Superficial parotidectomy is the preferred method of treating lesions of the parotid gland. Several methods of identification and dissection of the facial nerve have been reported, including antegrade and retrograde dissection. This study was conducted to compare between retrograde and antegrade facial nerve dissection during superficial parotidectomy. There were 23 patients in the group who underwent antegrade dissection while 25 in group who underwent retrograde dissection.

The time duration of surgery was compared between the two groups. Mean time for retrograde facial nerve dissection was 80 minutes while 110 minutes for antegrade facial nerve dissection with significant P-value (<0.05).

During the study, the complications between the two groups were compared with insignificant differences. The reported incidence of temporary facial nerve palsy varies between 11 – 82%. In this study, temporary Facial nerve weakness was seen in 13% patients in antegrade group while 16% in retrograde group with no permanent damage in either group. Temporary Salivary fistula occurred in 4% patient in retrograde group which selfsubsided. Histopathological report came out to be pleomorphic adenoma in all except 1 case in retrograde group had mucoepidermoid carcinoma (low grade type). This patient was sent to cancer hospital for adjuvant therapy.

A study done for the facial nerve morbidity after retrograde facial nerve dissection, out of 136 patients – 66% had temporary weakness in 1st week which recovered in 99% cases within 6 months.

Another prospective study comparing the two groups, the operative time was less in retrograde group (144 min vs 176 min with P value < 0.05), less post operative stay (3.3 days vs 4.1 days), less greater auricular nerve division (10.3% vs 59%), no tumour relapse in either group concluding retrograde dissection to be better technique.

A study done by N Bhattacharya et al. showed less operating time in retrograde group (1.2 hours vs 3.2 hours), less blood loss (40ml vs 67ml), less removal of normal parotid tissue (6cc vs 23cc), and no significant difference in the surgical margin status in either group.

A study done by K. Anjum et al. compared the complications in two similar groups including 89 patients and found no significant difference, concluding retrograde facial nerve dissection as an alternative technique. G. Y. YU has published a series of 2000 cases of superficial parotidectomy in retrograde nerve dissection fashion done over last 40 years.
CONCLUSION:

From the current study the technique of retrograde facial nerve dissection during superficial parotidectomy is found to be simple technique to carry out with less duration of surgical time, similar complication rate as compared to antegrade dissection and can be safely be carried out without compromising the surgical outcome.

REFERENCES: